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Hartvigsen, Morten B.; Gorgan, Maxim; Palmer, David

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Morten Hartvigsen

Orbicon A/S | Aalborg University, Department of Development and Planning
moha@orbicon.dk

Maxim Gorgan

National Agency for Rural Development (ACSA), Moldova
mgorgan@acsa.md

David Palmer

FAO Land Tenure Group, Climate, Energy and Tenure Division (NRC)
david.palmer@fao.org

**EXPERIENCES WITH
LAND REFORM AND
LAND CONSOLIDATION
IN MOLDOVA**

**EXPÉRIENCES DE
RÉFORME FONCIÈRE ET
DE REMEMBREMENT
AGRICOLE EN
MOLDAVIE**

**EXPERIENCIAS
SACADAS DE LA
REFORMA AGRARIA Y
LA CONSOLIDACIÓN
DE TIERRAS EN
MOLDAVA**



ABSTRACT

RÉSUMÉ

SUMARIO

LAND REFORM

RÉFORME FONCIÈRE

REFORMA AGRARIA

RURAL LAND MARKET DEVELOPMENT

DÉVELOPPEMENT DES MARCHÉS FONCIERS RURAUX

DESARROLLO DEL MERCADO RURAL DE TIERRAS

LAND FRAGMENTATION

MORCELLEMENT DES TERRES

FRAGMENTACIÓN DE TIERRAS

LAND CONSOLIDATION

REMEMBREMENT AGRICOLE

CONSOLIDACIÓN DE TIERRAS

Land privatization in the Republic of Moldova was made feasible through the adoption of the Land Code in 1991. The land reform and post-land reform development has resulted in a polarized agricultural structure with an average land holding of 1.56 hectares, typically distributed in 3–4 parcels. In many cases the fragmentation of land parcels has prevented the land market from developing.

As a result of increasing political awareness of the problems, in 2004 the Government of Moldova requested assistance from the World Bank to address the situation. This led to a feasibility study and ultimately to the implementation of land consolidation in six pilot

La privatisation des terres en république de Moldavie a été rendue possible grâce à l'adoption d'un Code foncier en 1991. L'application de la réforme foncière a généré une structure agricole polarisée, caractérisée par des propriétés agricoles d'une superficie moyenne de 1,56 ha, communément composées de 3 ou 4 parcelles. Le morcellement des exploitations a, en règle générale, freiné le développement du marché foncier.

Après une période de prise de conscience politique à l'égard de ces problèmes, le Gouvernement de Moldavie a sollicité l'assistance de la Banque mondiale. Cette démarche a conduit à une étude de faisabilité et plus récemment à une expérience

La privatización de las tierras en la República de Moldavia resultó de la adopción del Código agrario de 1991. La reforma agraria y los acontecimientos posteriores a ella dieron lugar a una estructura agrícola polarizada, en la que la tenencia promedio de tierras equivalía a una superficie de 1,56 hectáreas, generalmente distribuidas en tres o cuatro parcelas. En muchos casos, la fragmentación parcelaria ha impedido el desarrollo del mercado de tierras.

La siempre mayor sensibilización política acerca de los mencionados problemas hizo que, en 2004, el Gobierno de Moldavia solicitase la asistencia del Banco Mundial para hacer frente a esta situación. Ello condujo a la realización de un estudio de factibilidad y, en último término, a

villages; this was then scaled up to an additional 40 villages.

The six pilots were implemented during 2007–2009. In total, more than 7 000 landowners and almost 27 000 agricultural parcels were identified in the six pilot villages. Of these more than 2 900 (40 percent) participated in the project through land transactions. The scheme was completely voluntary.

During 2009–2010, the activity was scaled up with 40 new projects. A total of 7 520 hectares changed ownership, and around 2 600 hectares were transferred through long-term leases. About 25 percent (12 795) of all owners participated in the project.

In 2010, the Government of Moldova requested FAO to support the preparation of a national land consolidation strategy. The plan is for this strategy to be implemented through a national land consolidation programme. In January 2013 it was expected that the land consolidation strategy would be adopted by the Government in mid-2013 as part of a general strategy for agriculture and rural development.

pilote de remembrement agricole dans six villages, étendue par la suite à 40 autres villages.

Le remembrement agricole dans les six villages pilotes a été réalisé entre 2007 et 2009. Plus de 7 000 propriétaires fonciers et 27 000 agriculteurs y ont été identifiés. Parmi ceux-ci, plus de 2 900 propriétaires (soit 40 pour cent) ont participé au projet, à travers des transactions foncières. Tous étaient totalement volontaires.

Au cours de la période 2009–2010, les activités ont été étendues à 40 nouveaux projets. Un total de 7 520 ha a changé de propriétaire et près de 2 600 ha ont été transférés à travers un système de baux à long terme. Près de 25 pour cent des propriétaires (12 795) ont participé au projet.

En 2010, le Gouvernement de Moldavie a demandé l'assistance de la FAO pour la formulation d'une stratégie nationale de remembrement agricole susceptible de se traduire ensuite par un programme national de remembrement agricole applicable à l'ensemble du pays. En Janvier 2013, il était prévu que la stratégie de remembrement agricole serait adoptée par le gouvernement à la mi-2013 dans le cadre d'une stratégie générale de l'agriculture et du développement rural.

acciones de consolidación de tierras en seis aldeas piloto. Posteriormente, el plan de consolidación abarcó 40 aldeas adicionales.

La consolidación de tierras en las aldeas piloto fue llevada a cabo entre 2007 y 2009. Se determinó que en ellas había más de 7 000 propietarios y casi 27 000 parcelas agrícolas, y que más de 2 900 propietarios (40 por ciento) participaban en el proyecto por medio de transacciones de tierras. El plan era completamente voluntario.

Durante los años 2009 y 2010, la actividad de consolidación fue incrementada con otros 40 nuevos proyectos. Una superficie total de 7 520 hectáreas cambió de dueños, y alrededor de 2 600 hectáreas fueron transferidas por arrendamiento a largo plazo. Aproximadamente el 25 por ciento (12 795) de todos los propietarios participaron en el proyecto.

En 2010, el Gobierno de Moldavia pidió a la FAO apoyar la preparación de una estrategia nacional de consolidación. El plan consiste en aplicar la estrategia consolidación de tierras mediante un programa nacional. En enero de 2013 se esperaba que el Gobierno hubiese adoptado la estrategia consolidación de tierras a mediados de 2013 como parte de una estrategia general para la agricultura y el desarrollo rural.



INTRODUCTION

Most countries in Eastern Europe have been through a remarkable process of land reform that resulted in a complete shift from collective or state ownership of agricultural land to private ownership. The majority of these reforms were carried out in the 1990s and started with the transition from a command economy to a market economy. Land was privatized in different ways. In some countries, e.g. the Baltic states, privatization took the form of restitution to owners or their heirs of land that had been registered before the Second World War. In other countries, e.g. Albania, Armenia and Moldova, privatization was implemented through an equitable distribution of land parcels. In yet other countries, e.g. Ukraine and Russia, agricultural land was privatized by distributing to farm workers 'ideal' or 'equivalent' shares (i.e. undivided shares) with the land often continuing to be used by large-scale agricultural enterprises. All of these reforms were essentially driven by considerations of political justice. In some countries they were also driven by the need to rapidly allocate agricultural land to rural households in order to address problems of food security after the collapse of collective and state farms.

This paper describes the land reform process undertaken by Moldova, the land fragmentation that resulted, and recent efforts to address fragmentation through the introduction and development of a land consolidation instrument.

Most countries in Eastern Europe have been through a remarkable process of land reform

LAND REFORM IN MOLDOVA AND ITS OUTCOMES

The Republic of Moldova is situated in Eastern Europe between Romania and Ukraine. It was part of the Soviet Union and declared its independence in August 1991. During the Soviet era all agricultural land was state-owned (World Bank, 2005). Land was used for large-scale farming in collective or state farms and typically organized with one large farm per village.

Land privatization

Land privatization was made feasible through the adoption of the Land Code in 1991 and the Law on Peasant Farms (Csaki and Lerman, 2001). The Land Code set out the principles and processes for privatization and distribution of agricultural land. Meanwhile the Law on Peasant Farms provided the legal tools for establishing individual private farms by allowing people to exit from collective farm enterprises. In accordance with articles 6 and 12 of the 1991 Land Code, village land commissions were established to determine 'equivalent' land shares for eligible recipients, such as members and workers of collective and state farms. Eligibility extended to administrative and professional staff, teachers, social workers and pensioners. One of the first activities was to determine the land fund subject to privatization, and the village land commissions played a central role. The exact size of the land fund for all of Moldova's villages was established by Government Decree number 469 in 1994.

The 1991 Land Code (article 13) provided for the preparation of 'land arrangement projects' to distribute the state-owned agricultural land to the rural population. These privatization projects were approved by local councils of the *primarias* (i.e. municipalities) upon the recommendation of the village land commissions, after taking into consideration the opinions of the owners of land shares. The local councils authenticated the distribution of property rights for the equivalent shares of land and issued land titles for land shares. Initially, the provisional land titles did not indicate the exact location of parcels and eligible persons were not allocated physically distinct parcels. According to the Land Code, the owners of the land shares had the right to withdraw from the collective farms and establish individual farms. In this situation, distinct physical land parcels were allocated.

Administrative support for land privatization was relatively weak and in many cases the management of collective and state farms worked against the process. Between 1992 and 1996, less than 10 percent of members of collective farms had left and those that had were trying to farm individually, often without any equipment (East-West Management Institute, 2001). As such, despite the early start, land reform in Moldova advanced very slowly until 1996 when the Constitutional Court removed legislative constraints (Csaki and Lerman, 2001).

Land privatization was made feasible through the adoption of the Land Code in 1991



Moldova's land reform was heavily influenced by donors. The National Land Programme, funded by USAID, was launched in 1997 following two privatization pilot projects. Land arrangement projects for privatization were finally prepared and implemented using the procedure set out in the 1991 Land Code, but only after resolving the issue of outstanding farm debts. The new owners each received parcels of 'equivalent soil quality' rather than of equal surface area, i.e. allocations of land with good soil quality were smaller than those for less fertile soils.

The National Land Programme ended in 2001 and resulted in the privatization of 1 004 collective and state farms (East-West Management Institute, 2001). More than 98 percent of agricultural land subject to privatization (around 1.7 million hectares) was distributed to almost 1.1 million new owners, each with an average land holding of 1.56 hectares (Consulting and Credit in Agriculture (CCA), 2003). Moldova was relatively unusual among transition countries in that a husband and wife (for example) would each receive land parcels, rather than the household.

A land registry, the Agency for Land Relations and Cadastre, was established during the implementation of the National Land Programme with headquarters in the capital, Chisinau, and branch offices in each *raion* (i.e. administrative region). The parcels distributed during the privatization process have in most cases been registered.

The land reform in the 1990s and post land reform development has resulted in a polarized agricultural structure. A duality now exists: with a relatively small number of large corporate farms at one extreme and a large number of very small and fragmented family farms at the other. While smallholders operate some 99.5 percent of farms, they farm less than 39 percent of the total utilized agricultural area. Their farms average around one hectare compared with an average of almost 250 hectares for the larger operators, who are often farming on leased land (National Bureau of Statistics, 2011). Medium-sized family farms that are the backbone of the agricultural structures in most Western European countries are almost completely absent in Moldova.

More than 98 percent of agricultural land subject to privatization (around 1.7 million hectares) was distributed to almost 1.1 million new owners

Land fragmentation as a side effect of land reform

As elsewhere throughout Eastern Europe, land fragmentation occurred in Moldova as a side effect of the land privatization process. During the implementation of the National Land Programme the issue of land fragmentation was raised politically, and in 1998 the Land Code was adjusted to minimize fragmentation (Consulting and Credit in Agriculture (CCA), 2003). From that stage on, the equivalent land share was to be allocated in not more than three physical parcels – i.e. of arable land, vineyard and orchard – depending on the situation in the village. The level of land fragmentation after the privatization process varies considerably from village to village: new owners were almost always allocated three parcels officially, but they often received more. In some villages the persons eligible for land requested up to 12 parcels, e.g. to have orchards with different types of fruit trees.

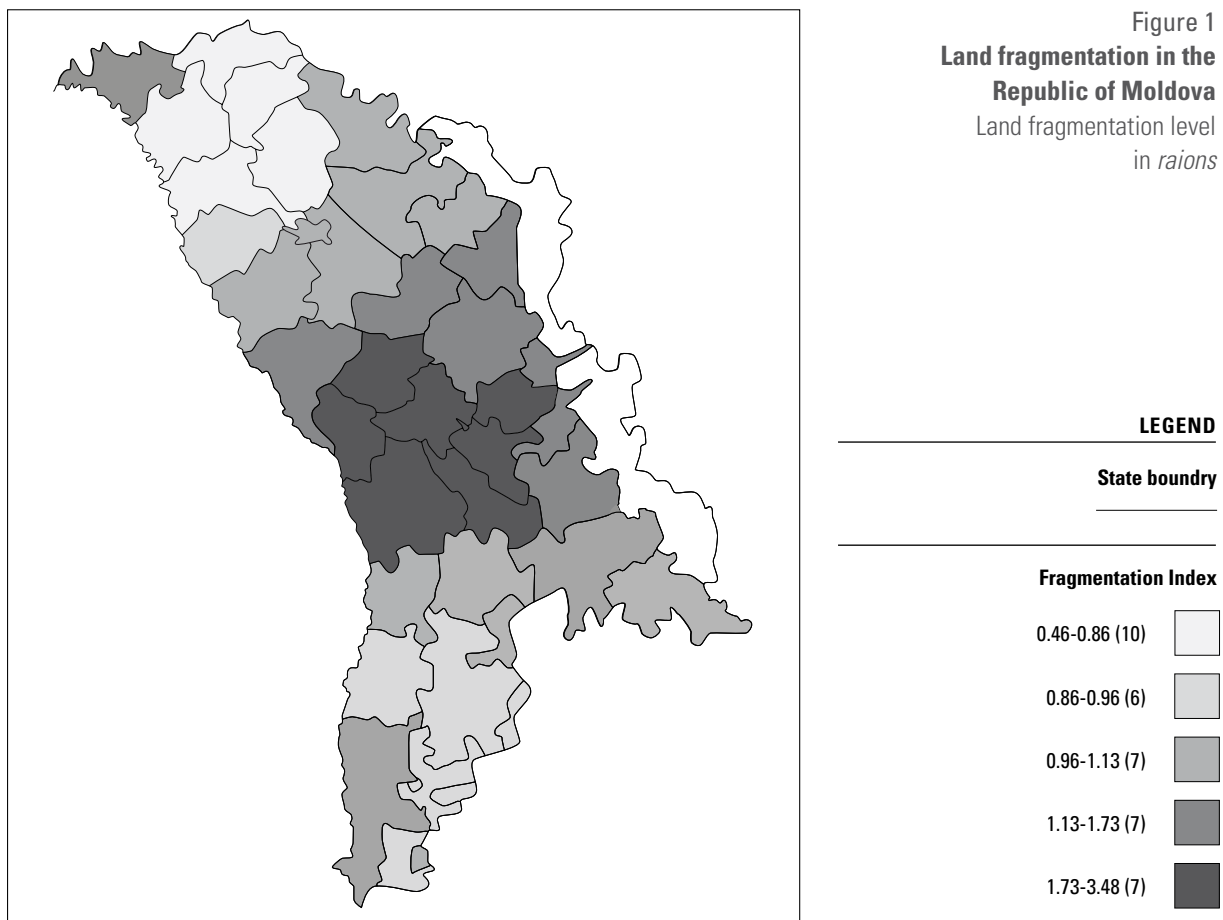
The level of fragmentation today remains almost the same as when the privatization process ended around 2000. Figure 1 shows the level of land fragmentation for the different *raions*. For each *raion*, a land fragmentation index, i.e. number of parcels per hectare, is calculated by dividing the total number of agricultural parcels – including arable land, orchards and vineyards – by the total area of agricultural land. The level of fragmentation is highest in the central part of Moldova.

The extent to which land fragmentation obstructs agricultural and rural development differs from one country to another and a general analysis of the underlying circumstances is beyond the scope of this paper. In the case of Moldova, the small and fragmented farms – e.g. farms of one hectare divided into 3–4 parcels – are widely recognized as a significant barrier for the vast numbers of small-scale family farmers. These farmers live with the daily problem of additional costs and inconvenience caused by fragmentation.

Land fragmentation occurred in Moldova as a side effect of the land privatization process



Figure 1
**Land fragmentation in the
Republic of Moldova**
Land fragmentation level
in *raions*



Source: Adapted from "Calculations by the authors based on data from the 2011 General Agricultural Census, National Bureau of Statistics of the Republic of Moldova"

Development of the agricultural land market

Starting in 1997, legislation permitted the selling and buying of parcels and the agricultural land market has gradually developed from a very low base. Table 1 presents data on sales transactions for agricultural land during the period 1999–2008. In 1999, 1 933 sales transactions were registered, transferring a total of 232 hectares. A decade later in 2008, 72 000 sales transactions took place and resulted in the transfer of ownership of 12 911 hectares (Botnarenco, 2009). A total of nearly 40 000 hectares of agricultural land was sold in almost 400 000 land transactions during the period 1999–2008.

Table 1
Sales transactions for agricultural land 1999–2008
(1 US\$ equals 12 MDL as of March 2012)

	NUMBER OF TRANSACTIONS	TOTAL AREA OF TRANSACTIONS (HA)	AVERAGE TRANSACTION (HA)	AVERAGE PRICE PER HECTARE (MDL)
1999	1 933	232	0.12	3 364
2000	9 753	1 268	0.13	3 100
2001	24 625	2 336	0.09	2 928
2002	27 759	2 682	0.10	3 781
2003	49 165	3 595	0.07	3 733
2004	44 134	3 201	0.07	8 001
2005	47 382	3 250	0.07	9 040
2006	51 483	3 773	0.07	11 000
2007	65 000	4 697	0.07	12 104
2008	72 000	12 911	0.17	10 301
MEAN PRICE 1999–2008	393 294	37 945	0.10	6 735

Source: Botnarenco, 2009



The average size of land in one transaction has been stable at about 0.1 hectares throughout that period. Despite this development in the land market, the land sold in this ten-year period is only 2 percent of the total agricultural land in Moldova (Cimpoies et al. 2009).

In many cases the fragmentation of land parcels has prevented the land market from developing, on account of the high transaction costs and the practical constraints of the interested buyers. For example, these buyers sometimes need to deal with hundreds of owners, especially in the case of areas involving orchards and vineyards where parcels are sometimes as small as 0.1 hectares.

In many cases the fragmentation of land parcels has prevented the land market from developing

INTRODUCTION OF LAND CONSOLIDATION IN MOLDOVA

As a result of increasing political awareness of the problems experienced by small and fragmented farms, in 2004 the Government of Moldova requested the World Bank to assist in addressing the situation. This request led to a feasibility study, and ultimately to the implementation of land consolidation schemes in six pilot villages, later scaled up to an additional 40 villages.

The Government of Moldova requested the World Bank to assist in addressing the situation

Feasibility study

At the request of the Government of Moldova, the World Bank funded a feasibility study with the objective of providing recommendations on pilot land consolidation activities, based on voluntary participation by the beneficiaries, in order to create more efficient smallholdings. The feasibility study was carried out during 2005–2006 by a team of Danish land consolidation experts and included a background report (Hartvigsen and Haldrup, 2005) and an appraisal report (Hartvigsen *et al.*, 2006), leading to the design of a land consolidation pilot project. Based on the experience of the team with pilot projects in several Eastern European countries (for example, Lithuania, Armenia and Serbia), and also on FAO guidelines (FAO, 2003), a pilot project with three main components was proposed:

1. simultaneous implementation of land consolidation pilots in six locations
2. capacity building
3. monitoring and evaluation.

The main stages proposed for the pilot project are illustrated in Figure 2.

The feasibility study led in 2006 to a request by the Government of Moldova to the World Bank and the Swedish Development Agency (SIDA) to fund the implementation of the Moldova Land Re-parcelling Pilot Project as part of the Rural Investment and Services Project II (RISP-II). FAO participated with the World Bank in the supervision of the pilot project.

Following a tender process, the project was implemented during the period July 2007 to February 2009 by an international consortium consisting of Niras AB (Sweden), Orbicon A/S (Denmark), ACSA (Moldova) and Terra Institute (United States of America). All project costs were covered by World Bank / SIDA funds.

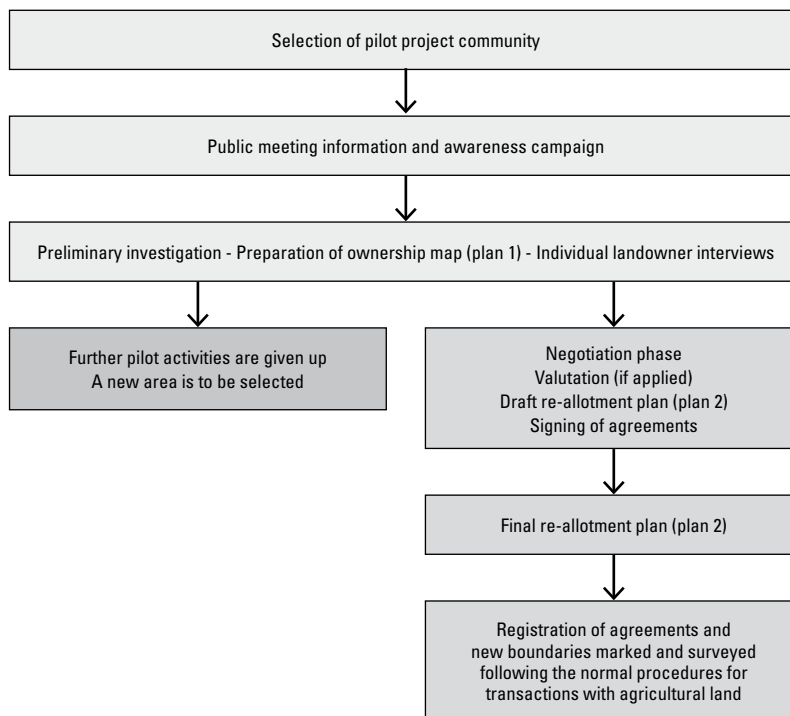


Figure 2
**Main stages of
land consolidation pilots
proposed in
feasibility study
in 2006**
(Land Consolidation
Pilot Project for
six villages)

Source: Adapted from Hartvigsen *et al.*, 2006



The specific objectives of the pilot project were to (Hartvigsen, 2007):

1. test the demand and feasibility of land consolidation with small landowners as the primary target group;
2. use the pilot experience as the basis for designing a potential national-level approach, including techniques, resource requirements and a legislative framework;
3. assess the impact of land consolidation at the local level, including on land markets, agricultural production and equity.

The project had three main phases:

Phase 1 – Preparation for land consolidation planning

Phase 2 – Land consolidation planning

Phase 3 – Registration and implementation of signed agreements.

The first activity was to select the six pilot villages using a list of 17 selection criteria proposed in the feasibility study (Hartvigsen and Haldrup, 2005). Among the most important criteria were:

- the existence of family farms with the potential for commercial farming and willingness to enlarge their farm size and amalgamate parcels;
- high fragmentation of land parcels;
- a small number of absentee owners and of parcels with problems of inheritance (i.e. where the registered owner was deceased);
- a small number of registration problems arising from the land reform process;
- initiative and commitment from the mayor and local council;
- availability and capacity of the secretary of the local council to provide some notarial services.

A list of 100 candidate villages was prepared by the Ministry of Agriculture and Food Industry (MAFI). Using the selection criteria the contractor and MAFI developed a shortlist of the 20 most suitable villages. They did this via an assessment whereby each village was allocated points depending on how it matched the selection criteria (Hartvigsen, 2007). The 11 villages with the highest scores were visited; finally the six most appropriate villages were selected (see Figure 3).

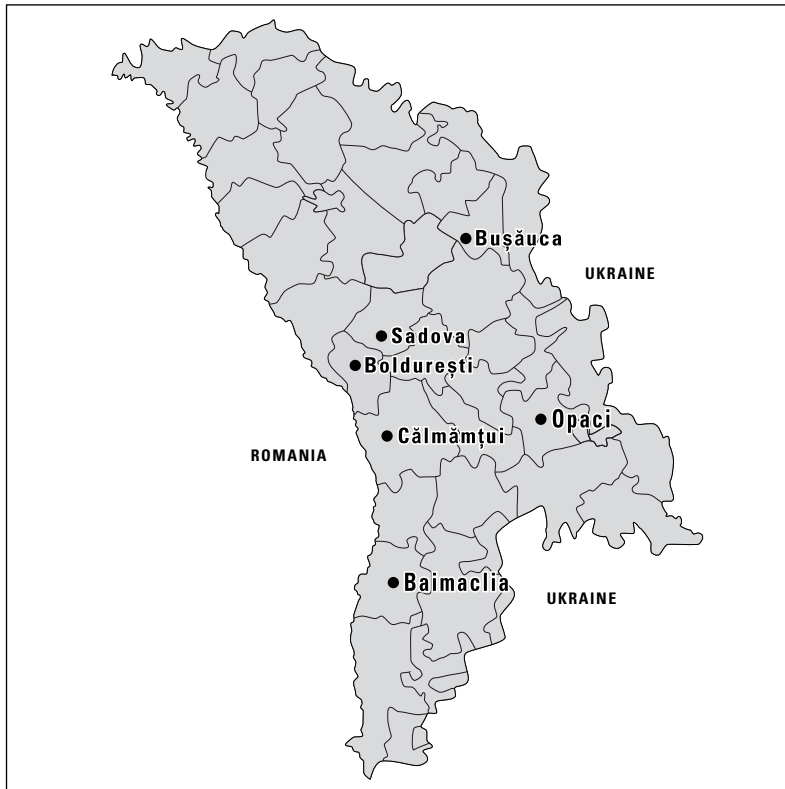


Figure 3
Location of selected pilot villages
 Moldova Land Re-parceling project

The contractor established a project organization with a project team of three national consultants and a land consolidation planner in each of the six pilot villages. These team members were employed through ACSA, the local partner in the consortium. The agricultural advisory service in Moldova is to a large degree operated by ACSA, and its network of consultants became available for the project implementation. The local team was supported by an international team of five experts from Orbicon and Terra Institute.



A training programme was developed at the start of the pilot project (Hartvigsen, 2007). It included a series of five training seminars, each seminar covering the activities that should occur in the following months, and ongoing supervision by the national and international consultants. The training was based on land consolidation training materials divided into 12 units outlined via a text and slide presentation, prepared by FAO based on experience gained from projects in Lithuania and Armenia (FAO, 2006). Around 60 people from relevant stakeholder institutions participated in the training programme.

A public awareness campaign was prepared and included the following elements:

- A project brochure was prepared and disseminated in the pilot villages (see Figure 4).
- Three community workshops were organized in each pilot village.
- A project web site was created and maintained during the life of the project.
- Information tailored to the needs of specific landowners and/or farmers was given during interviews and negotiations with them.

At the first community workshop in each of the six villages in October 2007, a local stakeholder committee was elected among and by the workshop participants. These committees were essential to ensure a participatory and bottom-up approach, representing the general interests of the different groups of stakeholders. During the project the local project teams and the local committees met regularly. The committees participated in the land valuation process and in some cases also helped to facilitate the negotiations between landowners and/or farmers.

Another early step was the preparation of ownership maps (referred to as 'Plan 1'), which showed all agricultural parcels in each of the six villages. These maps were based on official data from the land register, such as cadastre maps and registry information on ownership, parcel size and land use. The local teams initially prepared analogue maps; later in the process digital maps were created using GIS software. In total, more than 7 000 landowners and almost 27 000 agricultural parcels were identified in the six pilot villages.

The next step was to investigate interest in and desire for the land consolidation project on the part of landowners and/or farmers. An interview

**In total, more than 7 000
landowners and almost 27 000
agricultural parcels were identified
in the six pilot villages**

form was prepared and the process of interviewing all owners of agricultural parcels in the six villages began. For four months between December 2007 and March 2008, interviews were held with more than 6 000 landowners, representing 83 percent of all landowners (Hartvigsen, 2008).



Figure 4
Brochure given to landowners and local stakeholders



The data collected during the interviews were analysed and a report was prepared for each of the villages to describe the agricultural structure and production. A land mobility map – i.e. a map showing the parcels for which landowners had indicated their willingness to sell or exchange – was also prepared for each village (see Figure 5).

A total of 49 percent of the interviewed landowners indicated that they were willing to participate through the selling, buying, exchanging and/or leasing of land parcels (see Table 2). The interest demonstrated by landowners in participating varied from 33 percent in Opaci to 67 percent in Bolduresti. The interview forms – which gathered information such as land use and agricultural production and the interest of each landowner – were combined with the ownership map (referred to as 'Plan 1', see Figure 6) and the land mobility map. The combined results would give the local project teams a good platform for facilitating the detailed negotiations between the landowners and/or farmers in the second phase of the project.

The methodological approach of the pilot project placed land consolidation in an integrated rural development context. A community area development plan was prepared for each village by the project team in close cooperation with the residents and their elected leaders. Three workshops were organized in each village to prepare and discuss the draft development plans. The exercise

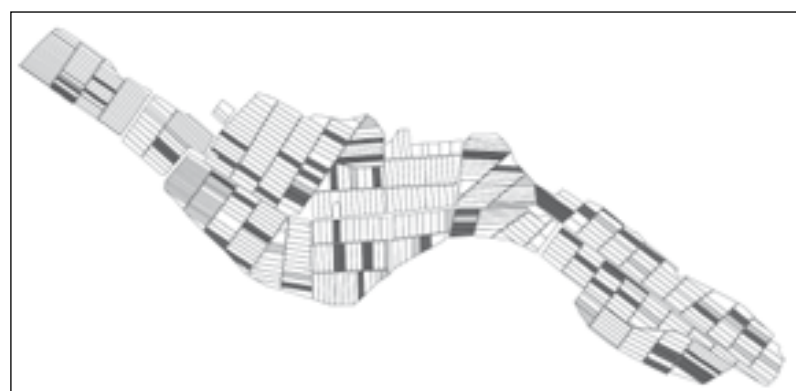


Figure 5
**Land mobility map for part of
Sadova village**

LEGEND



- Parcels for exchange 
- Parcels for sale 

Table 2
Final results of the Pilot Project

FINAL STATUS OF PROJECT	BUSAUCA PILOT SITE	SADOVA PILOT SITE	BOLDURESTI PILOT SITE	CALMATUI PILOT SITE	OPACI PILOT SITE	BAIMACLIA PILOT SITE	TOTAL IN ALL PILOTS
Total number of registered agricultural land parcels	3 011	5 922	6 006	2 022	5 626	4 204	26 791
Identified number of landowners	708	1 319	1 786	635	1 762	1 048	7 258
Number of landowners willing to participate based on interviews carried out November 2007 – March 2008	426 (60%)	535 (41%)	1 202 (67%)	286 (45%)	589 (33%)	540 (52%)	3 578 (49%)
Number of signed re-parcelling agreements	438	510	1 130	575	250	549	6 502
Number of transactions (buying–selling, exchange and heritage) fully registered as of 28 February 2009	907	350	1 197	440	473	245	3 612
Number of reimbursed transactions	773	350	1 180	410	450	160	3 323
Total area with changed ownership (hectares)	496	93	371	224	283	309	1 776
Number of parcels leased through the project	80	0	150	80	70	30	410
Total area leased through project (hectares)	40	0	100	21	91	50	302
Total number of parcels participating in the project (change of ownership + lease)	987	350	1 347	520	543	275	4 022
Total number of participating landowners	578	240	1 270	430	240	150	2 908
Total number of participating landowners (%) of all identified landowners	82%	18%	71%	68%	14%	14%	40%

Source: Hartvigsen, 2009

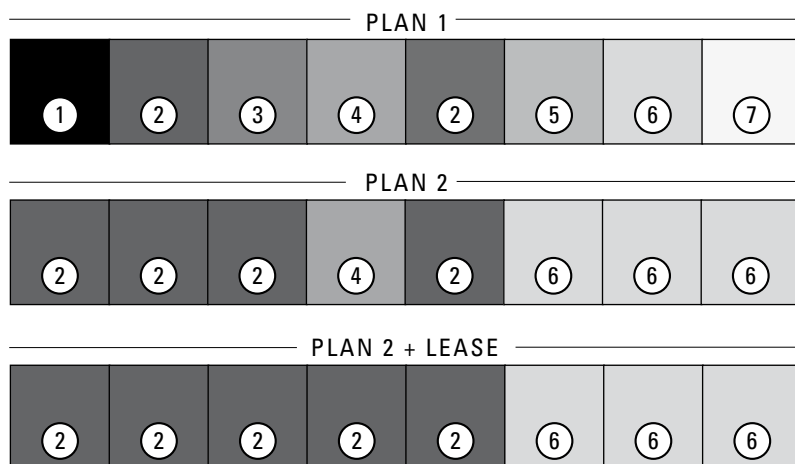


Figure 6
Land consolidation process
First change of ownership,
then lease as supplement

Source: Adapted from Hartvigsen, 2009

gave consideration to agricultural issues, local infrastructure, social issues and other issues of local importance. One of the results was a catalogue of local development initiatives to be implemented. The pilot project had funding only for the re-parcelling itself, but in some cases the national and local project teams were successful in assisting the villages to find funding for the implementation of their development plans.

In the second phase of the pilot project the local teams, supported by national and international consultants, facilitated a process of negotiation and land consolidation planning between the landowners and/or farmers in the six villages. The objective was to assist participants in identifying the best possible options for re-allotment, and to represent the results on a re-allotment plan (referred to as 'Plan 2', see Figure 6). Each village was divided into sub-areas that were bounded by roads or channels. This was necessary in order for the local project teams to have an overview of the situation and to manage the re-allotment process, as in some cases there were over one thousand interested landowners. For each sub-area the design goals for the re-allotment planning were defined by the local project team in cooperation with the elected committee of stakeholders.

For example, a sub-area where a number of landowners wanted to sell their parcels might be considered a location of interest for landowners who wished to consolidate and enlarge their holdings.

A land valuation exercise was conducted as part of the land consolidation planning to find the market price for each parcel offered for sale or exchange. For each of the defined sub-areas, a market value per hectare was estimated. This value was subsequently used as the basis for the negotiations between landowners and/or farmers, which were facilitated by the project teams.

The project aimed first to do as much as possible to improve the ownership structure and then to facilitate long-term lease agreements as a supplement. The process is illustrated in Figure 6.

When an agreement on selling, buying or exchanging agricultural parcels was finalized with each stakeholder, an agreement form was completed outlining the relevant information and conditions, and this was signed by the landowner (see Figure 7).



Figure 7
**The first land consolidation
agreement being signed in
Calmatui village in April 2008**

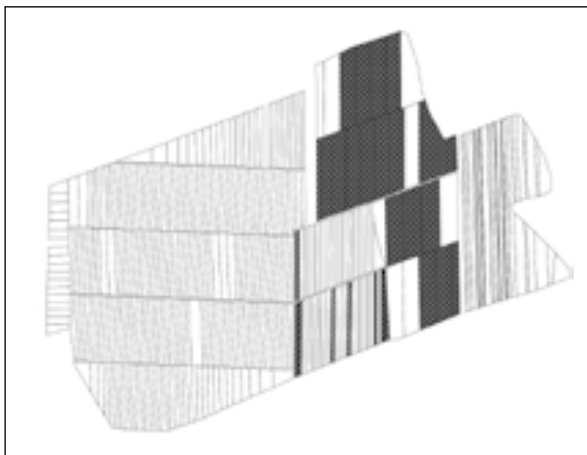
Source: M. Hartvigsen



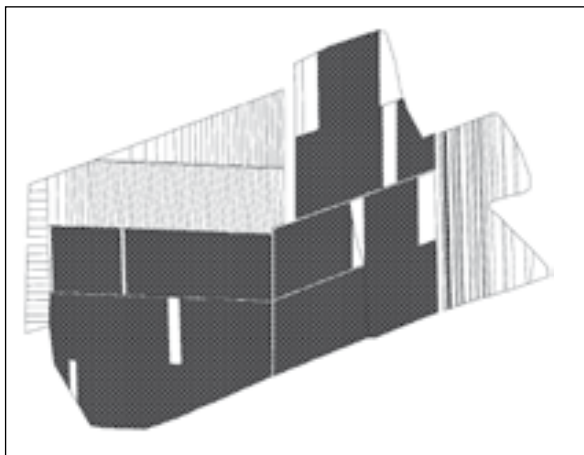
Bolduresti is a typical Moldovan village, with old, unproductive orchards. Before the pilot project started, a local farmer wanted to acquire about 30 hectares in order to establish a new orchard. As the parcel sizes created for orchard areas during the land reform were small, the area identified had 124 individual owners. The farmer managed to acquire an area of about 10 hectares by purchasing a number of parcels with an average size of about 0.7 ha. However, the remaining area comprised parcels as small as 0.14 ha, and the high transaction costs and time constraints of dealing with a large number of owners caused the farmer to give up.

Box 1
Land consolidation and
the promotion of
agricultural development

SITUATION BEFORE THE PROJECT (PLAN 1)



SITUATION AFTER THE PROJECT (PLAN 2)



Through the pilot project, the farmer was able to acquire and consolidate another 15 hectares of unproductive orchard in a relatively short period of time. This involved purchasing approximately 110 parcels from about 80 landowners. After the finalization of the pilot project the farmer continued to purchase parcels in his area of interest and in 2009 he planted a new plum orchard on the consolidated land.

In total, 2 908 landowners or 40 percent of all landowners in the six villages participated in the voluntary land consolidation pilot project. Three villages were very successful, with the other three being less so. The participation rate varied considerably from 14 percent in Opaci and Baimaclia to 71 percent in Bolduresti and 82 percent in Busauca. In total, 1 776 hectares changed owners through the project, which has been one of the largest land consolidation pilot projects in Eastern Europe so far.

An example of the land ownership structure in a small part of one village before the pilot project (i.e. Plan 1) and after it (i.e. Plan 2) is shown in Figure 8. In this example most of the parcels in this part of the village were purchased and consolidated by a few local farmers. As outlined in the box above, land consolidation can be an efficient tool to stimulate rural land markets in situations where the high level of fragmentation, particularly in areas with very small parcels, hinders market transactions. The 'frozen' land market was warmed up.

In total, 2 908 landowners or 40 percent of all landowners in the six villages participated in the voluntary land consolidation pilot project

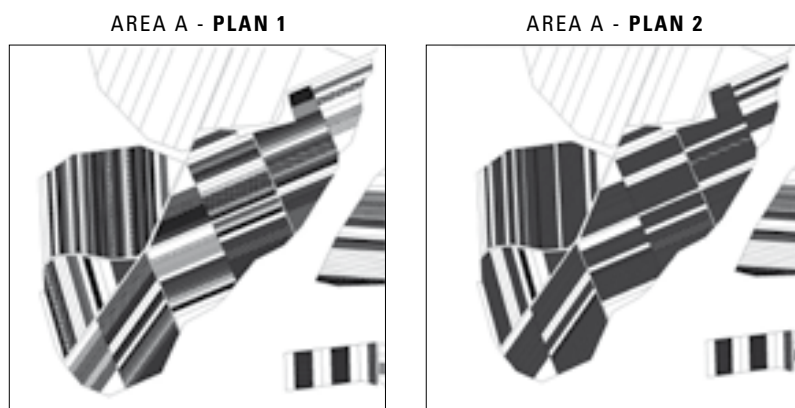


Figure 8
Land ownership in part of Bolduresti village before (left) and after (right) the project



The third and final phase of the project was to register and implement the land transactions agreed between the landowners and/or farmers. Simplified procedures for simultaneous registration were developed following the provisions in the 1991 Land Code. These further built on the simplified procedures already developed under the Land Privatization Support Project 2003–2006 funded by USAID (Hartvigsen and Haldrup, 2005). The simplified procedures allowed the secretary of the local council to perform some of the duties normally conducted by notaries. This speeded up the procedure and reduced transaction costs.

The land transactions started in June 2008 in those sub-areas of the villages where work on the re-parcelling plan had been undertaken. Only transactions that improved the parcel structure were funded under the project. In total, 3 612 land transactions were conducted (Hartvigsen, 2009). Despite the use of the simplified transaction procedures, some of the transactions were complicated and time consuming. Among these were so-called 'inheritance cases' in which the person registered as the owner in the land register had passed away, but transfer to their successor had not yet been registered. The process for registering the heir is relatively long and involves notaries, but it is a strict requirement before any transaction can take place. The pilot project dealt with almost 600 such cases. Many of these were in Opaci and this was one of the reasons for relatively weak results in that village. In addition, all six pilot villages had a number of problems with the registration of parcels in the land register. In Sadova, one of the less successful villages, large areas had not been registered during the land reform and the problem could not be addressed in the limited project period. Thus, the owners of these unregistered land parcels were excluded from participating. As a result, a recommendation of the pilot project was that future land consolidation projects should roll out over a longer period, such as 2½–3 years, in order to resolve registration and other problems.

Impact assessment of the pilot project

The evaluation of the pilot project was part of the concept of the earlier feasibility study. After a tender procedure, Agrex, a Moldovan consultancy, together with an international team leader, carried out an impact assessment

of the pilot project in 2011 (Agrex, 2011). The evaluation included a multidisciplinary analysis of the land tenure situation and its economic, environmental and social impact, using a combination of qualitative and quantitative methods. The six villages were compared with three comparable neighbouring control villages.

The conclusion of the impact assessment was (Agrex, 2011):

"An overall conclusion of the assessment is that the first land re-parcelling pilot project in Moldova was a timely, excellent and modern tool to improve the land tenure situation in rural areas. It also contributed to a great extent to building up national administrative capacities and raising public awareness on the benefits of land re-parcelling, as well as highlighting weak parts of the existing national legislation that could be improved in the nearest future in order to create suitable conditions for efficient, EU-oriented rural development practice in Moldova."

The assessment included interviews with 60 owners who participated in the pilot project and 15 owners from the control group. The analysis showed that farms which were included in the pilot project obtained higher gross incomes and had higher returns per hectare than farms that did not participate (Agrex, 2011).

The first land re-parcelling pilot project in Moldova was a timely, excellent and modern tool to improve the land tenure situation in rural areas



Figure 9
**Newly planted orchard in
Bolduresti village
on consolidated land**

Source: M. Gorgan



The environmental impact assessment concluded that the project had established framework principles to ensure that there were no adverse environmental impacts from project activities (Agrex, 2011). It further concluded that the pilot project had, to a great extent, contributed to developing capacities and raising public awareness on the benefits of land consolidation (Agrex, 2011). The impact assessment is one of the very few impact assessments of land consolidation projects in Eastern Europe.

Scaling up land consolidation in an additional 40 villages

Based on the experiences with implementation in the pilot villages, in 2009 the Government of Moldova requested the World Bank and SIDA to fund the scaling up of activities through the RISP-II project. This resulted in land consolidation being implemented in 40 additional villages from May 2009 to January 2011. The work was carried out by ACSA, the local partner in the consortium for the pilot project. Given ACSA's network of consultants and the capacity developed in the pilot project, it was possible to scale up and simultaneously implement land consolidation rapidly in 40 villages that were spread geographically across the country.

International assistance was provided to MAFI between November and December 2008 to select the 40 project villages, but no further international technical assistance was provided for the scaling up (Hartvigsen, 2008). FAO continued to participate with the World Bank in the supervision of the implementation.

The work followed the concept and principles of the pilot project and took into consideration the experiences and lessons learned. While the main target group continued to be small- and medium-sized family farms, participation was not restricted to them. The participation of other groups, such as larger corporate farms and/or investors, helped to achieve mutually beneficial solutions.

The training programme developed for the pilot project was used for training the new team members and the staff of regional and local governments. It was supplemented with training for secretaries of the local councils on the procedures and authentication of land transactions, and for the local project teams on GIS software.

**It was possible to scale up
and simultaneously implement
land consolidation rapidly in 40
villages**

Scaling up necessitated a new organizational structure. For the pilot project, a two-level organizational structure was used, with a small central office providing support to the project office in each of the six villages. Working in 40 villages required a three-level structure, and regional supervisors supplemented the support provided by the small central office. Each regional supervisor supported the work in eight villages, on average.

About 50 000 landowners were identified in the 40 villages, which had a combined area of approximately 80 000 hectares and were divided into 168 000 parcels (ACSA, 2010). Table 3 shows the results of the work, aggregated to the *raion* level. Of a total of 37 500 owners who were interviewed, 27 765 expressed a willingness to participate in the project, i.e. 55.3 percent of all interviewed landowners in the 40 villages. The project supported the conclusion of 15 685 transactions, which account for 9.35 percent of the total number of parcels in the villages. Of the total number of transactions, 65 percent (10 197) were for sales; 5 percent (767) involved exchanges; 8 percent (4 355) were for leases and 2 percent (366) related to inheritance. The total monies spent on the implementation of land transactions (land extracts, notarial services, registration costs, etc) amounted to 1 814 185 lei – about US\$ 154 000 as at March 2012 – or 11.4 percent of the total project budget, which was 15 942 943 lei, about US\$ 1 350 000. All costs related to the land consolidation projects were covered by the World Bank / SIDA funds.

A total of 7 520 hectares changed ownership, and around 2 600 hectares were transferred through long-term leases. About 25 percent (12 795) of all owners participated in the project. The total number of parcels decreased by over 34 percent (from 33 890 to 22 194). The average number of parcels per landowner was reduced from 3.8 to 3.3. The average parcel size increased from 0.65 ha to 0.99 ha and the average farm size increased from 2.43 ha to 2.95 ha.

About 50 000 landowners were identified in the 40 villages

A total of 7 520 hectares changed ownership, and around 2 600 hectares were transferred through long-term leases



Table 3
Final results of Moldova Land Re-parcelling Project in 40 villages distributed on regional project offices

PROJECT FINAL STATUTE	BĂLȚI	CANTEMIR	CHIȘINĂU	NISPORENI	ORHEI	TOTAL
Total registered agricultural land plots	25 913	26 961	48 510	28 714	37 715	167 813
Total landowners	9 707	7 476	13 372	7 928	11 701	50 184
Owners willing to participate in project activities (according to interview outcomes)	7 332	4 232	4 109	4 143	7 949	27 765
Land transactions registered (as of 15 December 2010)	4 837	1 472	1 283	2 425	5 668	15 685
Inclusive through lease, >5 years	3 630	8	0	194	523	4 355
Total area with changed owners	3 093.38	975.35	588.39	619.38	2 247.89	7 524.39
Total leased area, hectares	2 134.28	5.13	0.00	115.09	350.65	2 605.15
Total owners to benefit fully	3 644	1 175	979	1 730	4 049	11 577
Participating owners that did not manage to benefit from land transaction financing	418	57	272	185	286	1218
Total participating landowners as a percentage of total identified owners	42%	16%	9%	23%	38%	25%

Source: ACSA, 2010

Figure 10
Consolidation of non-productive uncultivated vineyards in Ghiduleni village, Orhei raion





TOWARDS THE DEVELOPMENT OF A NATIONAL STRATEGY ON LAND CONSOLIDATION

In 2010 the Government of Moldova requested the World Bank and SIDA to fund the initial steps towards the development of a national strategy on land consolidation through the RISP-II project. An international consultant was contracted to assist MAFI by preparing two discussion papers, which were reviewed by relevant stakeholders (Hartvigsen, 2010):

- Main Concept for National Land Re-parcelling Strategy for Moldova;
- Main Concept for Land Re-parcelling Legislation.

Drawing on these initial concepts, the Government of Moldova requested FAO to support the preparation of a national strategy. This strategy is intended to guide the scaling up of land consolidation and its implementation in a national programme. Technical assistance was provided by national and international consultants who were closely involved with earlier initiatives, and by FAO staff. The development of the strategy was thus linked directly to Moldova's previous experiences.

A first step was the preparation of a 'framework paper' by national consultants to identify issues that should be addressed in a national strategy, and to evaluate options. These issues and options were reviewed with MAFI and an outline of the proposed draft strategy was prepared.

The drafting of the land consolidation strategy went through several iterations. A 'zero draft' was prepared by the national consultants and reviewed by MAFI, FAO and the international consultant. The feedback resulted in a revised 'first draft' which was presented and discussed at a national workshop. This review strengthened the draft strategy and a 'second draft' was presented to MAFI and approved by the Ministerial Council in January 2012. The draft strategy has undergone a formal review by relevant government ministries, prior to being finalized, and did not receive any objections. The State Chancellery has expressed the need to bring together the different strategies in the agricultural sector. It is expected (January 2013) that the land consolidation strategy will be adopted by the Government in mid-2013 as part of a general strategy for agriculture and rural development.

**The Government of Moldova
requested FAO to support the
preparation of a national strategy**

The draft land consolidation strategy is for a 15-year period and recognizes that conditions are likely to change within that time. Emphasis is placed initially on agricultural development and agricultural improvement based on the consolidation of parcels, enlargement of farm sizes, and increases in production and efficiency. However, it is anticipated that the focus will gradually shift towards the implementation of more comprehensive projects involving public infrastructure works, and the use of land consolidation techniques for non-agriculture purposes such as nature protection, environmental restoration, and projects containing resettlement components.

The draft land consolidation strategy identifies MAFI as the lead agency for land consolidation; as such, it would be responsible for the overall implementation of the programme. The focus for the first few years is on developing capacity for the implementation of the strategy, including: preparing training and public awareness campaigns; building lines of cooperation with key agencies; developing methodological, legal and institutional frameworks; identifying funding sources. The experiences gained during work in the 46 villages disclosed a number of impediments and bottlenecks in the legal frameworks that will have to be eliminated by adopting legal amendments.

CONCLUSION

Moldova has gone through a remarkable land reform process during the last 20 years. This process had two phases. In the first phase in the 1990s, agricultural land was privatized after four decades of state ownership. As elsewhere in the region, land fragmentation occurred as a side effect of land privatization. The second phase of land reform began around 2004 with the first steps of land consolidation and should continue for decades to come with the implementation of land consolidation projects under a new national land consolidation programme.

Valuable capacity has been developed in both the public and private sectors. Project team members who received training and gained practical experience are available to contribute to a future round of projects.

Moldova has gone through a remarkable land reform process during the last 20 years



The preparation of the national strategy for land consolidation has been an important exercise to embed the practical land consolidation experiences into government policy. The strategy will be implemented through the launch of a National Land Consolidation Programme. Even though much has been achieved since 2004–2005, land consolidation is still at a vulnerable stage in Moldova as activities for the short-term are dependent on continued political support and the securing of necessary funding.

The experience of Moldova has redefined expectations regarding the number of owners who might participate voluntarily in projects. Earlier expectations were that voluntary participants might number a few tens of people or a few hundred at the most. The experience of implementing land consolidation in 46 villages during 2007–2010 has shown that it is possible to have projects with over one thousand landowners participating on a completely voluntary basis.

The practical experience of these projects also showed that the existence of large numbers of very small parcels (e.g. 0.1 ha for orchard and vineyard parcels) impede the development of a land market. Land consolidation should not be seen as a substitute for land markets, and instead it can play an important role in removing obstacles so that land markets can function better.

Another important lesson is that the land consolidation process is more time consuming than expected. The work in each of the 46 villages was carried out in only 18 months. This time was often not sufficient to include parcels with difficult registration problems, e.g. where inheritance issues came into play or where parcels were not registered in the land register. The draft strategy therefore proposes that the project period should be 2½ to 3 years. Solving registration problems should be an integrated part of land consolidation.

The work also provided insights on the requirements for a legal framework. As most European countries with ongoing land consolidation programmes have land consolidation laws, an early assumption was that one of the main proposals of the strategy would be the development and adoption of such a law. However, based on the experiences in the 46 villages, the legal analysis showed that a new land consolidation law would not be a necessary requirement for a full-scale national programme. Future land consolidation work will continue to use the provisions in the existing Land Code, which

The strategy will be implemented through the launch of a National Land Consolidation Programme



provides for simplified and cost-effective transaction procedures (e.g. by allowing the secretaries of the local councils to perform some notary duties). At the same time, the provisions in the Land Code on the preparation of 'land arrangement projects' that were applied during the privatization in the 1990s can be used in the future to enable local councils to approve and adopt land consolidation projects. Thus, when it comes to a legal framework for land consolidation, the experiences from Moldova are different from those of most other Eastern European countries, where the recommendations have been to adopt a specific land consolidation law before beginning a national programme.



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